

Reviewer Al Cawthon
Date 11/8/15

Form/Permit # 2419
Company Name KWR ON PROD MGT INC.
Well # (b)(9)
Location [REDACTED]

TECHNICAL REVIEW

Type Injection Well: (EOR/SWD/HC Storage) (New/Conversion) (Active/Inactive)

Injection: (Continuous/Cyclic)

Approximate # days operating/year _____
Rate (B/D): Average _____ Maximum 94
Wellhead pressure (psi): Average _____ Maximum 0
Fluid: TDS _____ Sp. Gr. 1.1 (EST) Analyses included: (yes/no) _____
Source (formation name) _____

Geologic Data (all references to depths are below land surface)

Base of Historical Usable Water: 100 ft (BASED ON WATER WELL DATA @ 2 MILES TO THE NE)
Base of USDW and how determined: 4130 ft (BASED ON WELL LOG (#1-A, SW/4))
Injection Interval: Top 1695 ft; Bottom 1702 ft; Effective Thickness _____
Formation name MISSISSIPPI Lithology LIME
Porosity (%) _____ Initial Reservoir Pressure _____ Date _____
Permeability (md) _____
Confining Zones: Thickness between injection zone and USDW _____
Lithology _____
Cumulative shale _____: thickest shale zone _____ (interval)

Well Data: (all references to depths are below land surface)

Surface Elevation: 856 ft (KB/GL) Total (Depth/Plugged Back Depth) 2016 ft.
Date Drilled or to be drilled: 3/27/33 Date converted: 7/20/67
Type logs available on (this well/offset well): (By reference/included) _____

Test data: (By reference/included) _____

Construction:	Size (in)	Depth Interval	Sacks of Cement	Hole Size	Cement Interval	How Determined
Surface Csg.	<u>10.00"</u>	<u>0-20'</u>	<u>0</u>			
Intermediate Csg.	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Long String Csg.	<u>6.62"</u>	<u>0-1580'</u>	<u>0</u>			
Liner	<u>5.50"</u>					
Tubing	<u>2.60"</u>					

Packer type and depth 1530 ft

AOR (1/4 mile radius)

Map submitted: (yes/no) _____ Tabulation of Wells Submitted: (yes/no) _____
Faults Located: (yes/no); (none Present/Distance from injection well _____)
Number of wells in AOR: _____
Total _____ (Abandon _____; Production _____; Injection _____)
Number of wells in zone of Endangering Influence: Total _____
Number of wells Requiring Corrective Action: Total _____ (list below)

Well	Type Well	Problem	Corrective Action Required
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Maximum Injection Pressure Calculation $P_m = (\text{Frac Gradient} - (0.433 \times \text{Sp.Gr.})) \text{ depth}$

$$P_m = (0.75 - (0.433 \times 1.1)) \times 1695 = 464 \text{ (psi)}$$

Technical Review (Passed/Failed)

REPORTS A 5.5" LINER BUT DOESN'T STATE WHETHER IT WAS EVER CEMENTED